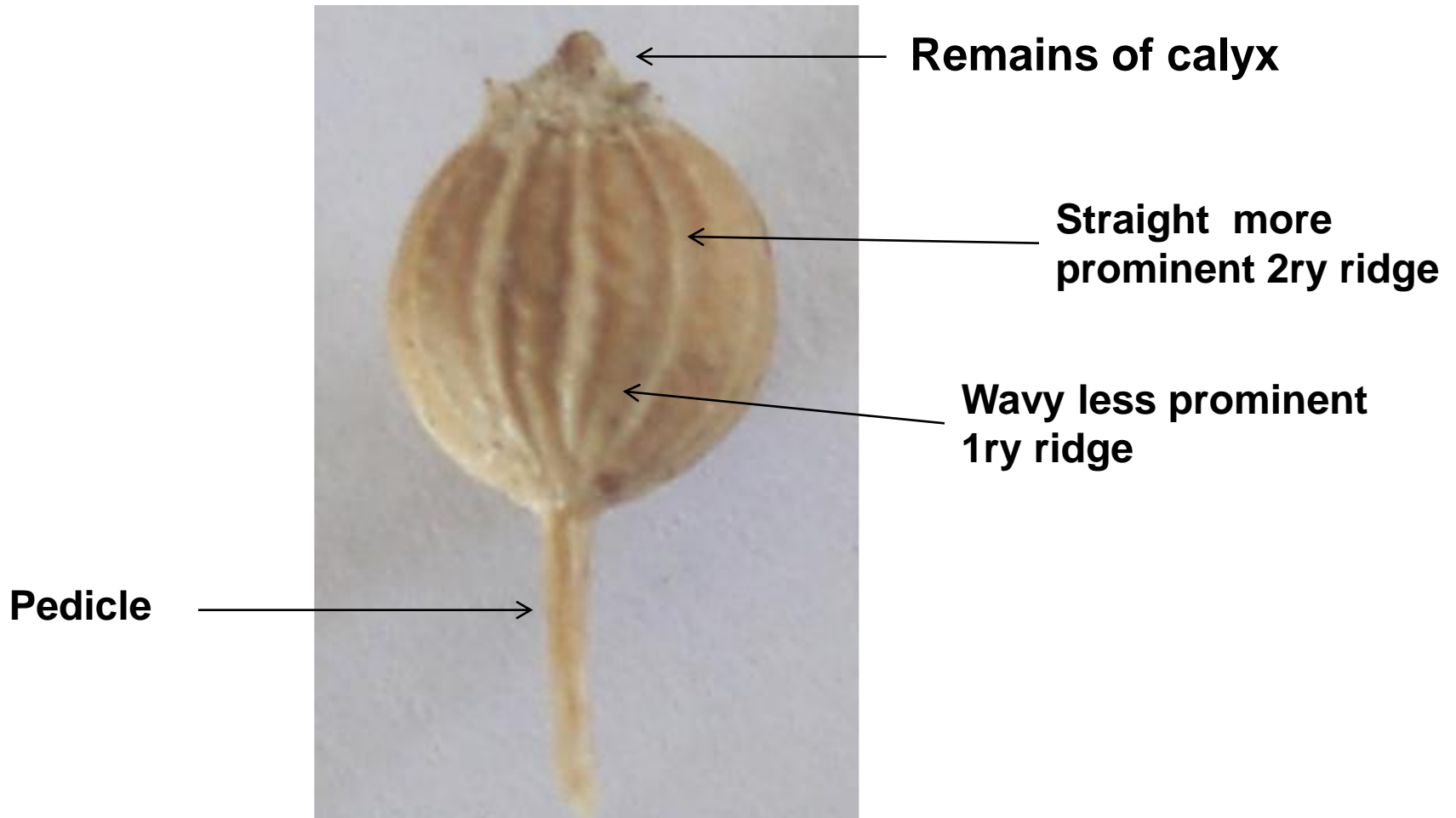


Coriander Fruit ثمر الكزبرة

Morphology



Entire Cremocarp

- **Origin :** The dried ripe fruit of *Coriandrum sativum*
Family Umbellifereae (Apiaceae)
- **Condition:** Dried -ripe
- **Shape:** **globular or spherical** cremocarp crowned by short **conical** stylopod.
- **Color:** **yellowish brown**
- **Kind:** True, simple, dry, schizocarp, cremocarp, sometimes separated into mericarps.
- **Insertion:** Inferior
- **Dehiscence:** Indehiscent mericarp.
- **Odour:** **Aromatic spicy characteristic**
- **Taste:** **Aromatic**



Pericarp

- **Colour:** yellowish brown
- **Surface:** Glabrous Marked with 5 less prominent wavy primary ridges and 4 straight more prominent secondary ridges, showing 2 dark longitudinal bands on ventral surface
- **Texture and Thickness:** thin & leathery.
- **Sutures:** Nil
- **Epicarp, mesocarp and endocarp :**
Not distinguished macroscopically.

**Mericaarp
(Ventral side)**



**Mericaarp
(Dorsal side)**



- **Placentation** : Apical

Seed

- **Number**: One seed in each mericarp.
- **Position** : Filling the whole cavity of the pericarp.
- **Embryo**: Apical, Dicot , straight and small.
- **Kind**: Albuminous, Anatropous,
Coelospermous endosperm.
- **Testa** : Adhere to the pericarp, very thin, and brown,
with raphe on one side.

T.S.

**More prominent
2ry ridge**

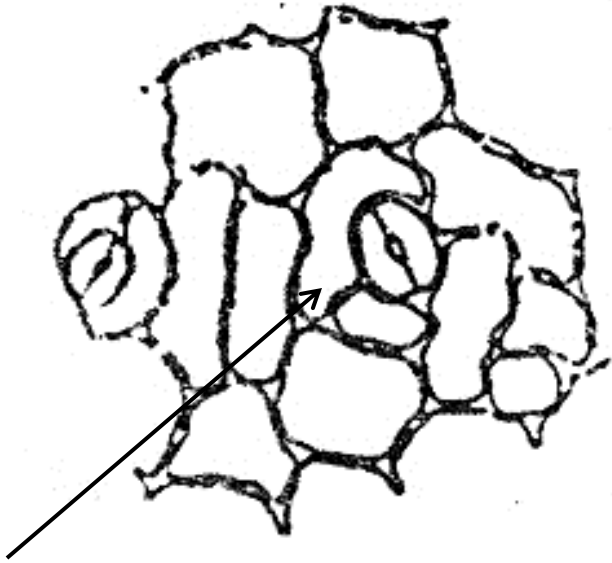
**Less prominent
1ry ridges**



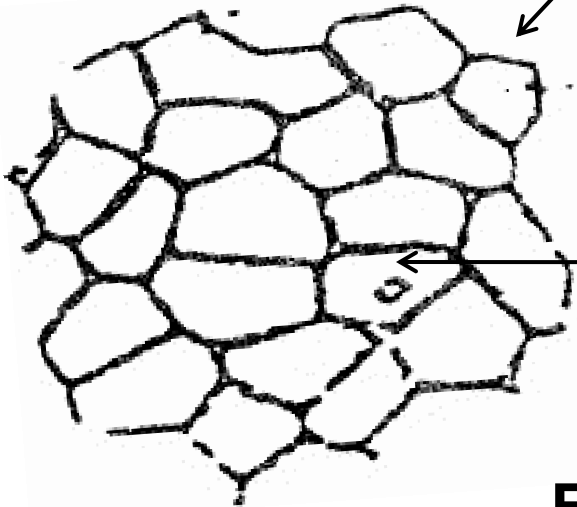
Vittae

Coelospermous endosperm

T.S. in Coriander



**Anisocytic
stomata**



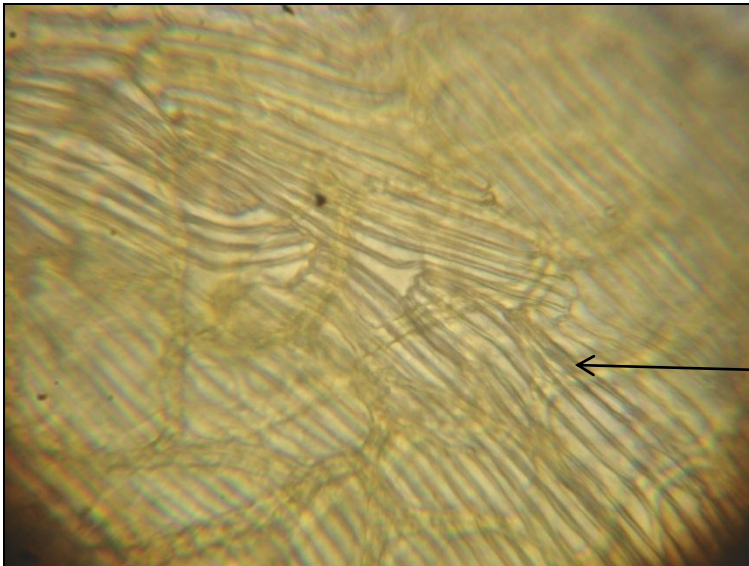
Ca oxalate prisms

Epicarp



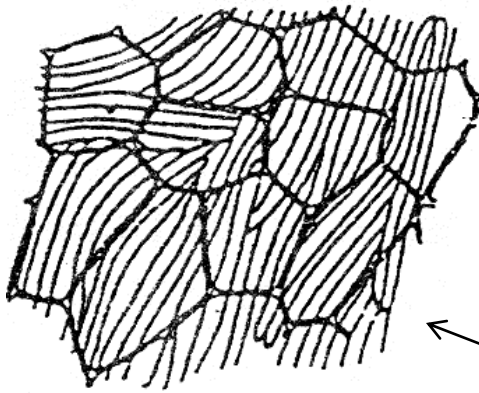
Vertical fibres

Horizontal fibres

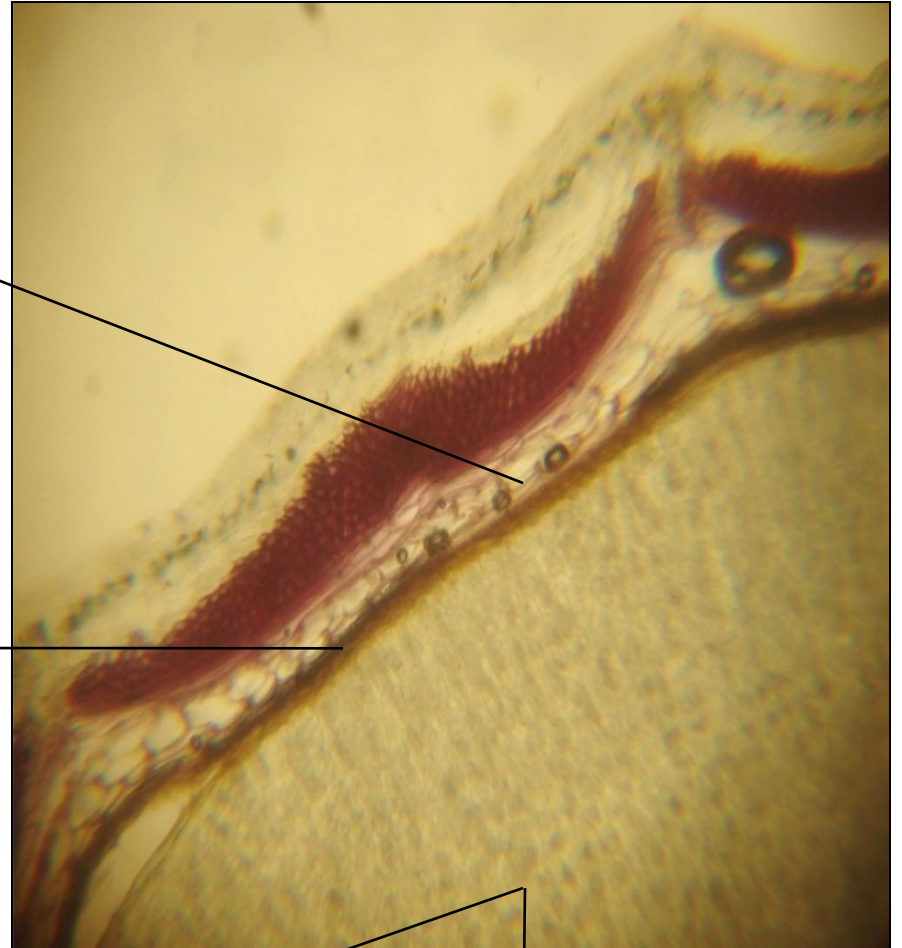
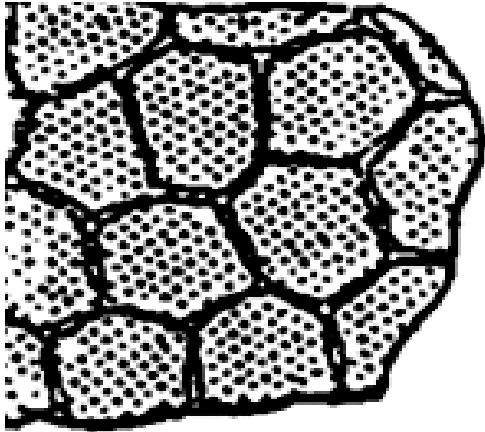


**Inner most layer of
mesocarp**

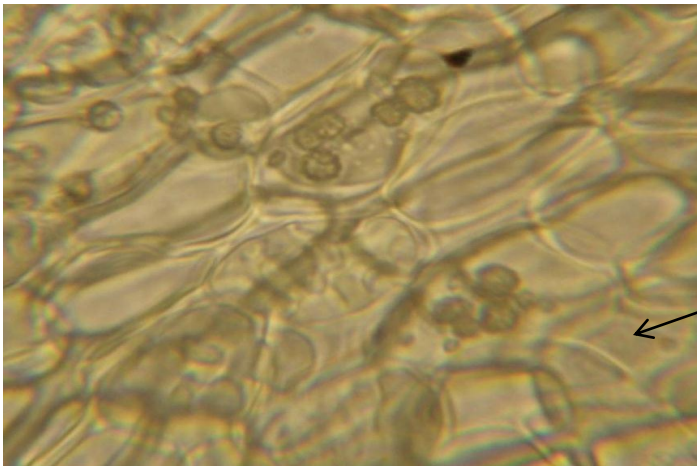
**Parquetry
endocarp**



Testa



Endosperm

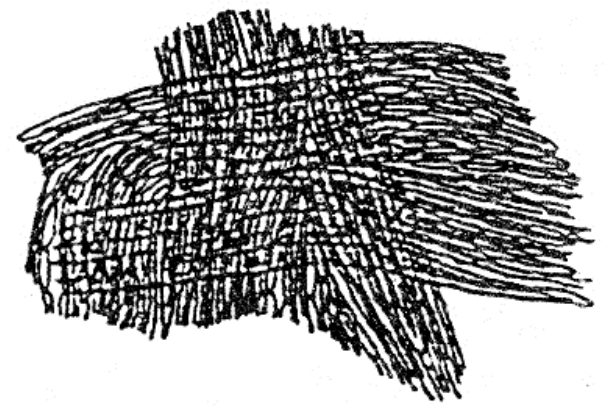


Powder

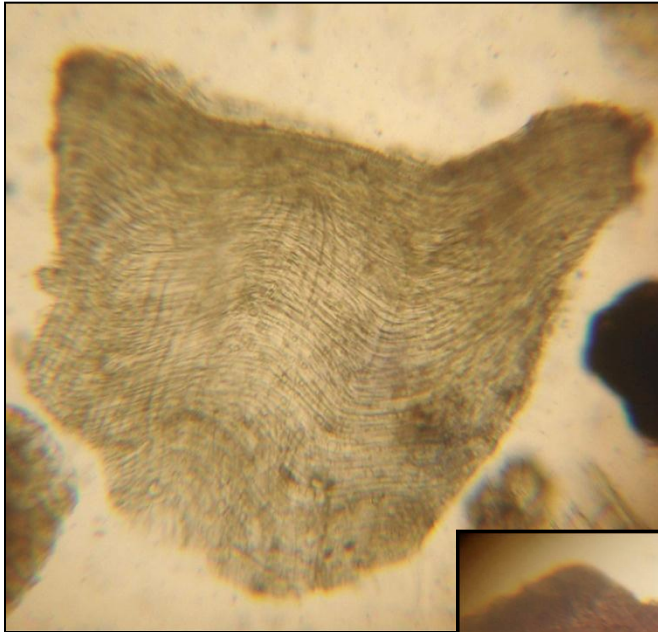
Colour: yellowish brown

Odour: Aromatic

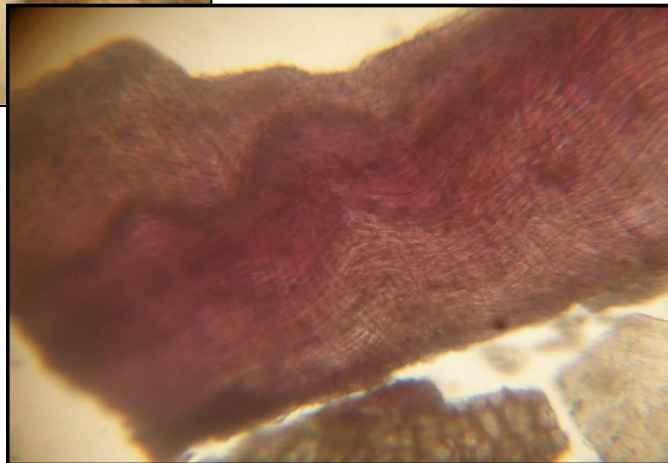
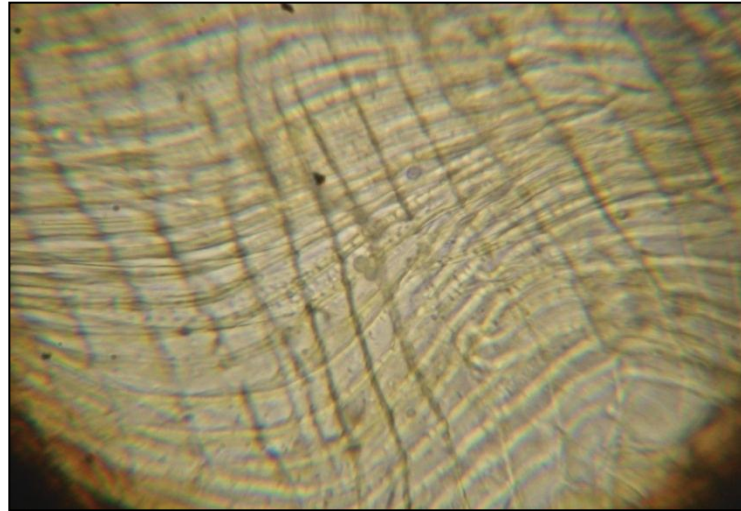
Taste: Aromatic spicy characteristic



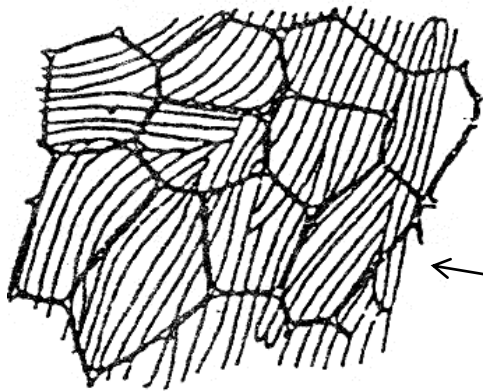
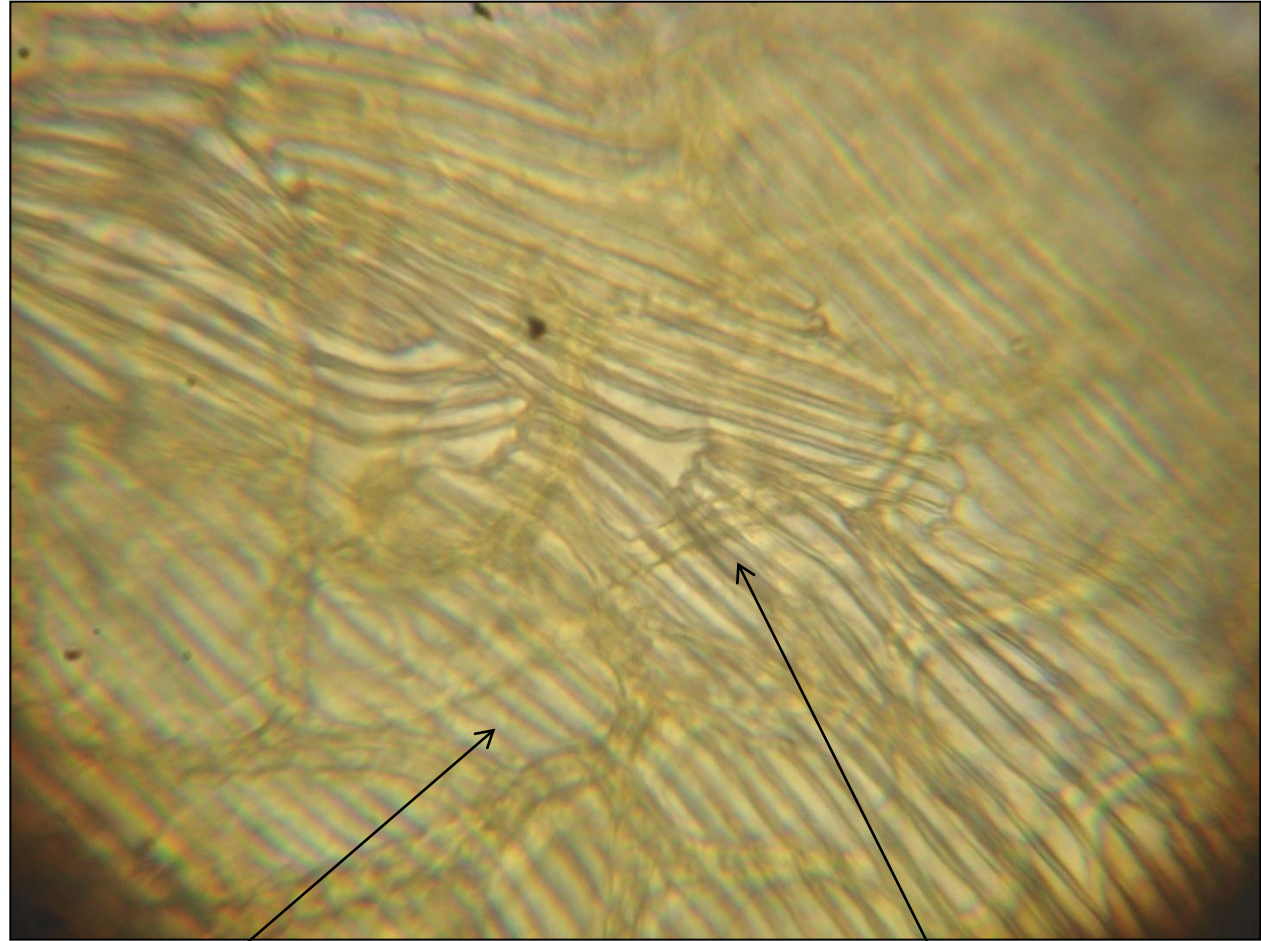
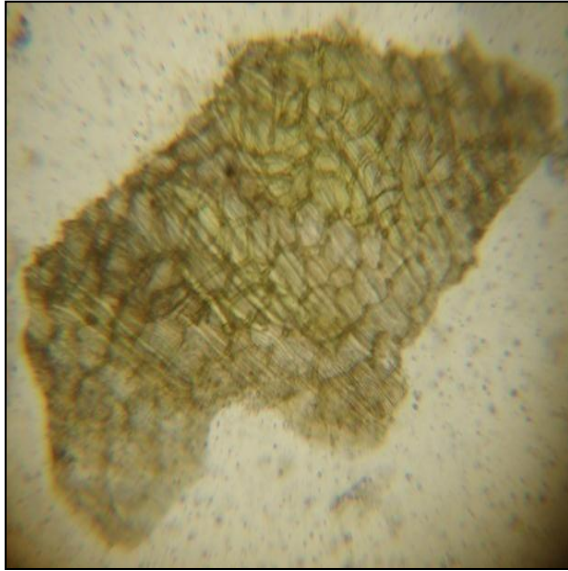
Low
power



High
power



**Lignified Wavy
Crossed fibres**



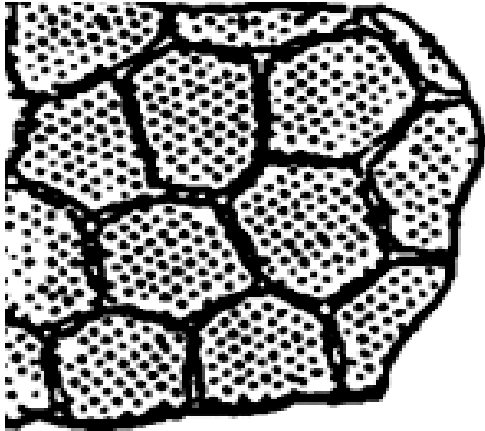
**Parquetry
endocarp**

**Pitted inner most layer
of mesocarp**

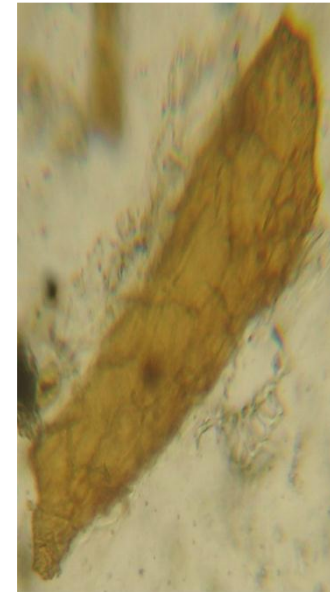
Epicarp



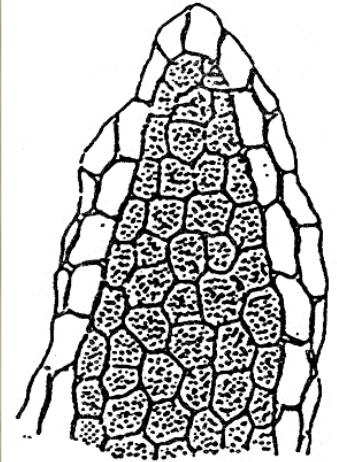
Testa



Ca oxalate prisms



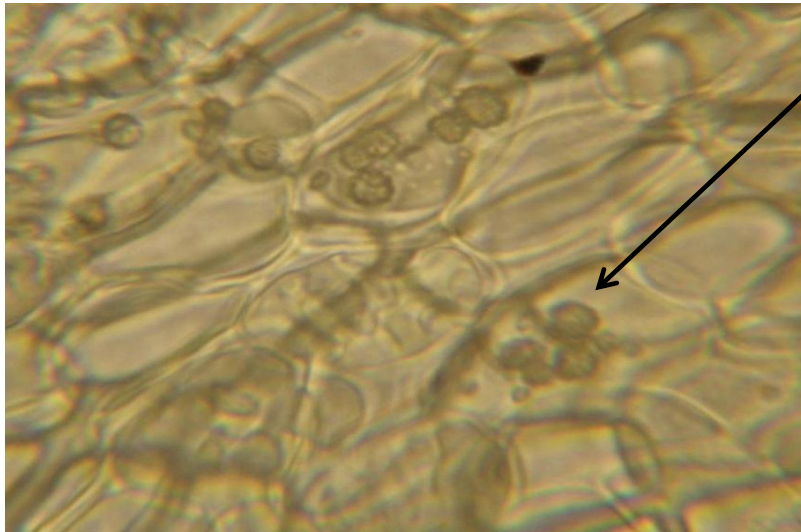
Simple vittea



micro rosette crystal of calcium oxalate

fixed oil droplet

endosperm



Ammi visnaga

خلة بلدى

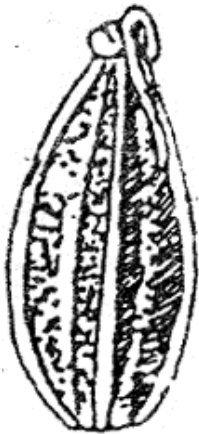


Ammi majus

خلة عادة



Reflexed style

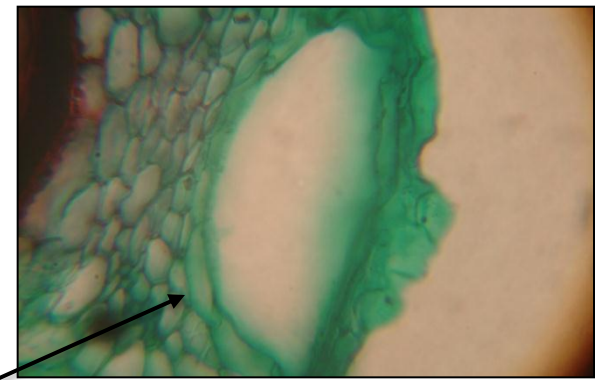
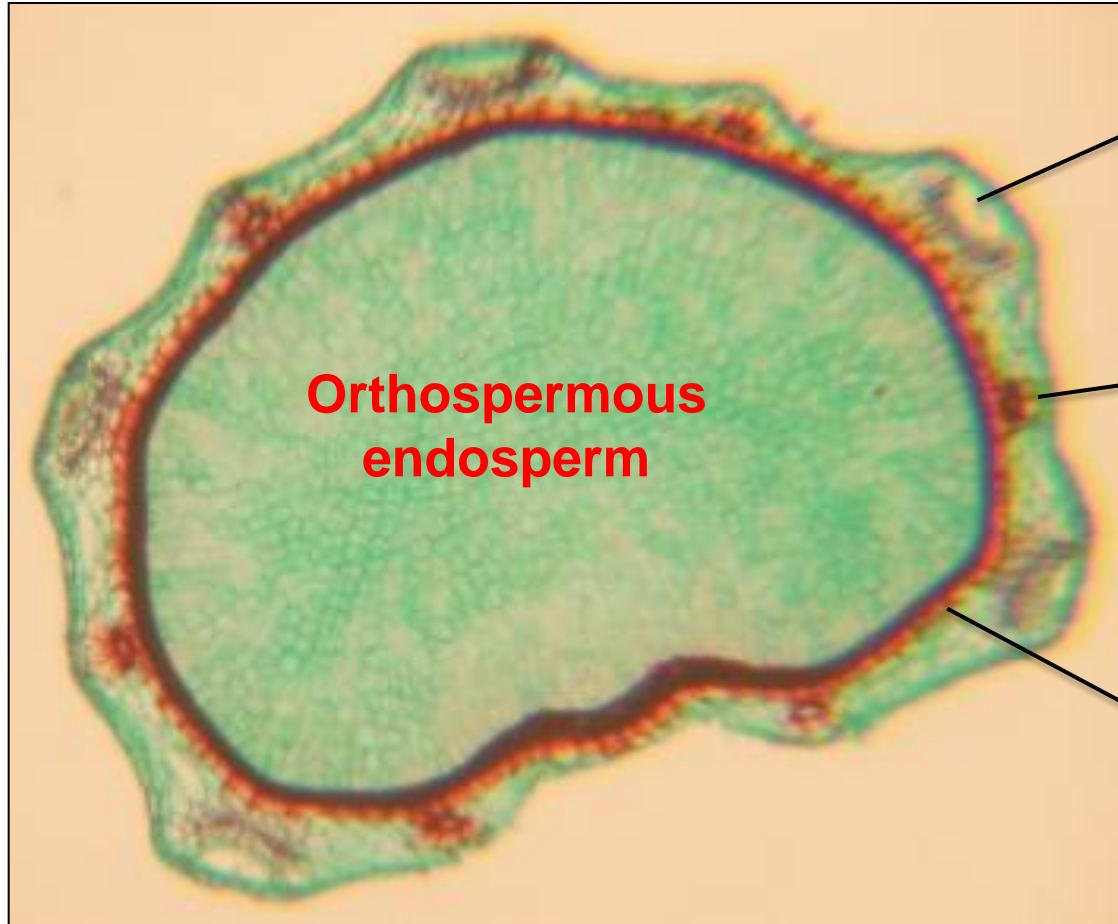


	Ammi visnaga	Ammi majus
Condition	Dried –ripe	
Shape	Ovoid	nearly cylindrical
	Crowned with pyramidal stylopod bearing a reflexed style	
Color	Greenish brown with violet ring	Greenish brown with no violet ring
Kind	True, simple, dry, schizocarp, cremocarp, sometimes separated into mericarps	
Insertion	Inferior	
Dehiscence	Indehiscent mericarp.	

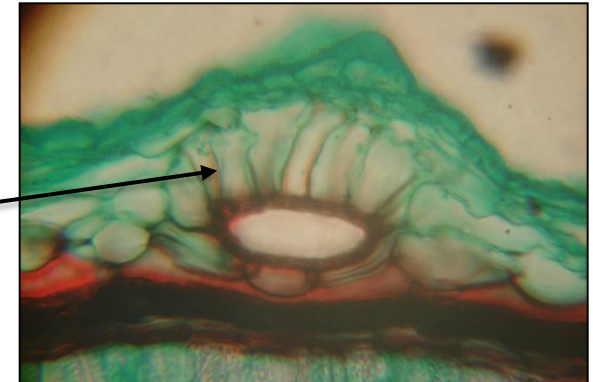
		Ammi visnaga	Ammi majus
Pericarp	Surface	Glaberous distinct more Prominent 1ry ridges & less prominent 2 ry ridges	Papillosed 5 primary ridges & 4 secondary ridges
		2 dark longitudinal bands (vittea)	
	Texture & Thickness	thin & leathery.	
	Sutures	Nil	
	Epicarp, mesocarp & endocarp	Not distinguished macroscopically	
Placentation		Apical	

		Ammi visnaga	Ammi majus
Seed	Number	One seed in each mericarp	
	Position	Filling the whole cavity of the pericarp	
	Embryo	Apical, dicot , straight and small	
	Kind	Albuminous, Anatropous, orthospermous endosperm	
	Testa	Adhere to the pericarp, very thin, and brown, with raphe on one side	
Odour		slightly aromatic	Terbinthinate aromatic
Taste		Pungent , slightly bitter	Pungent , slightly bitter
Carpophore		Simple	Forked

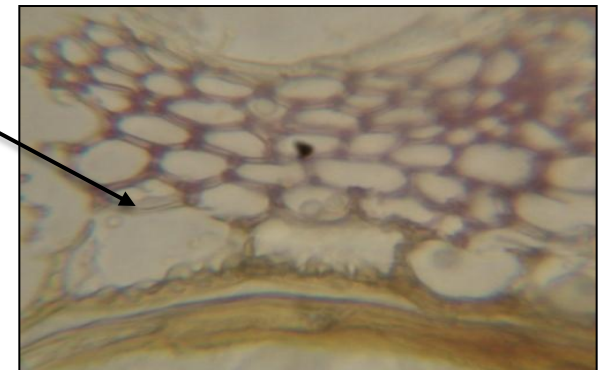
Ammi visnaga



lacuna



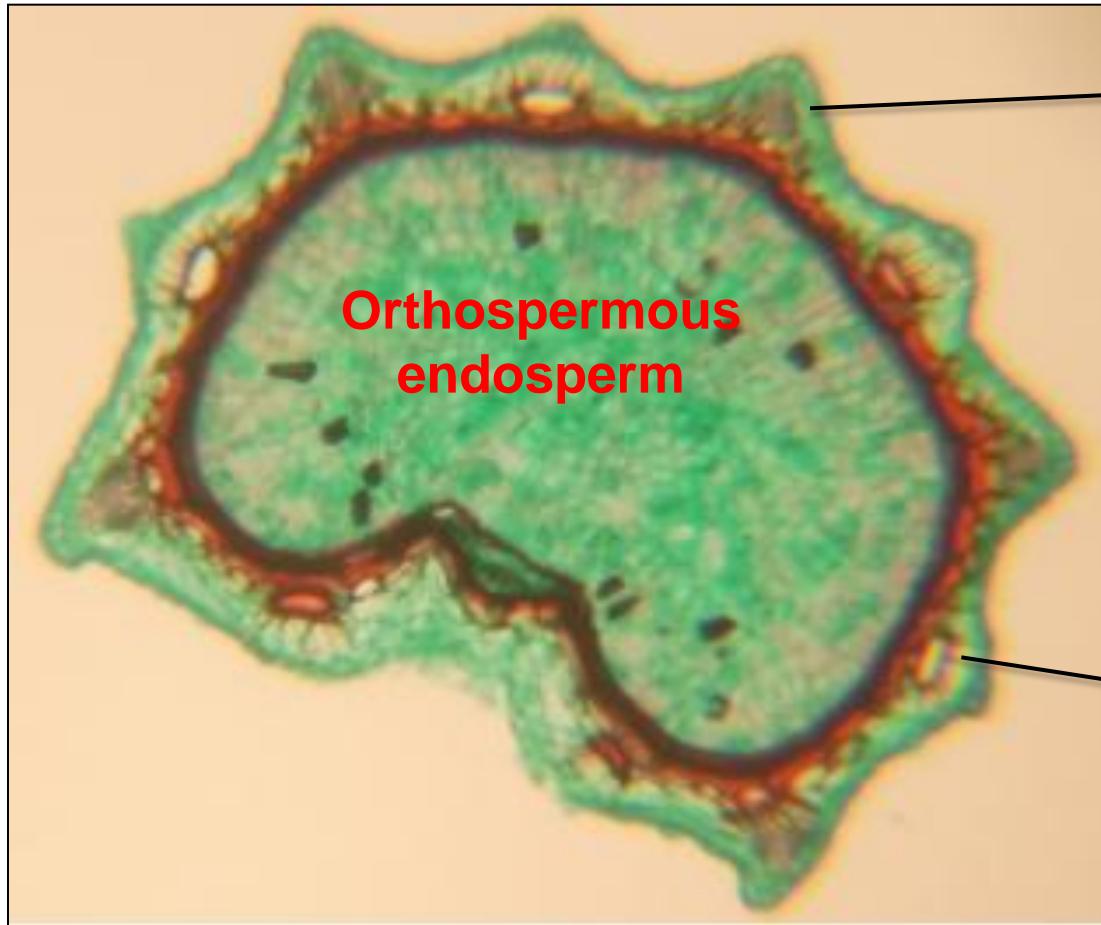
Fan like structure



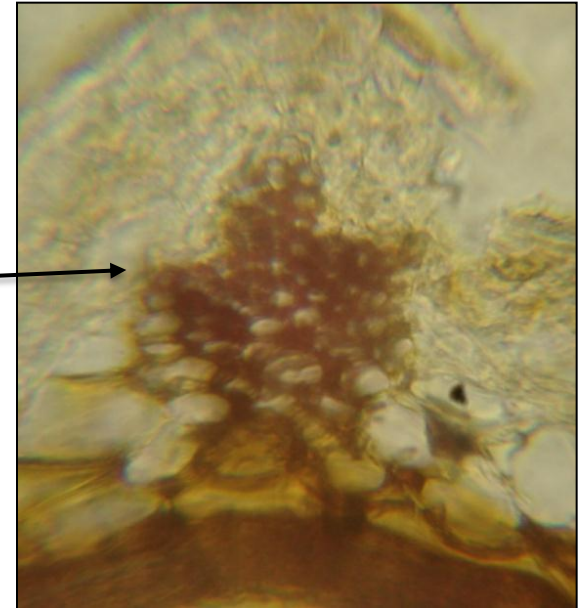
IML of mesocarp

1ry ridge is more prominent than 2ry ridge

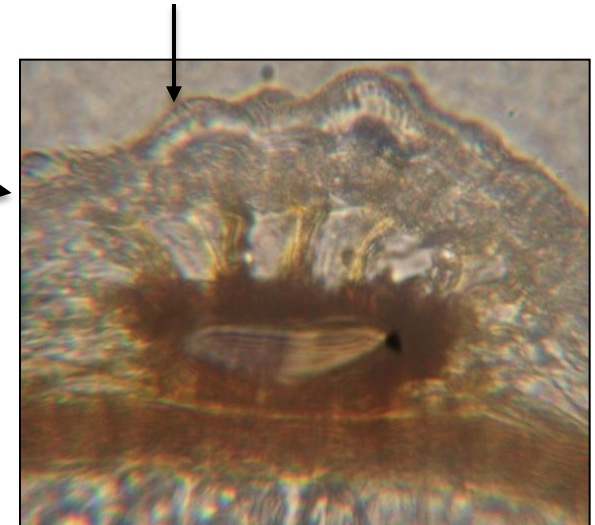
Ammi majus



Crown shape

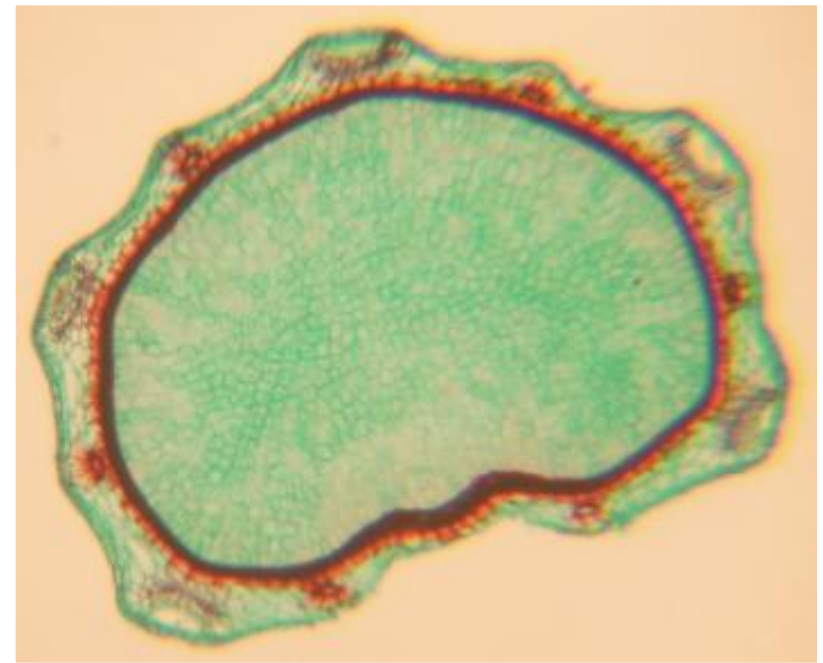
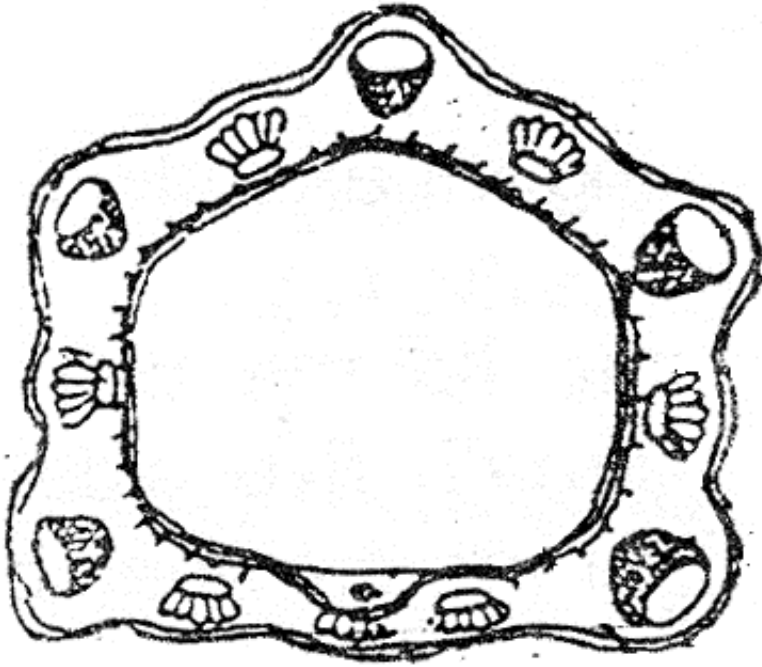


Papillose epicarp

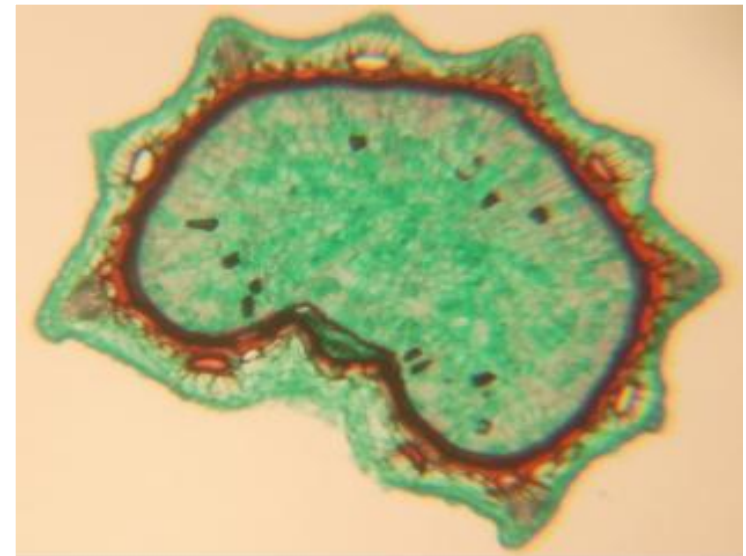
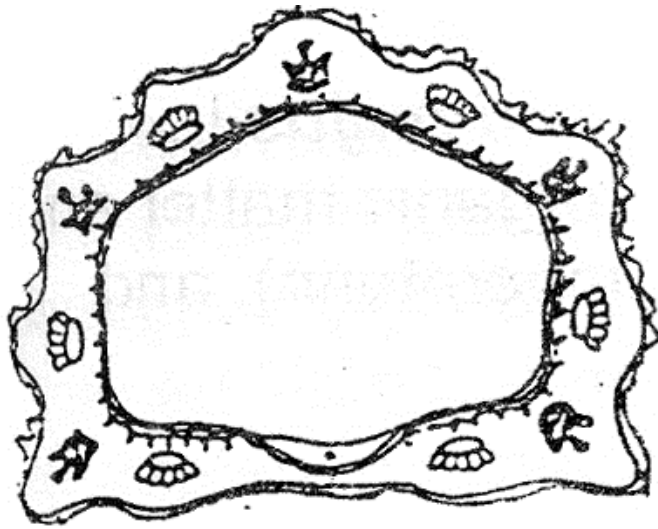


1ry ridge & 2ry ridge are equally prominent

Fan-like structure



1. Outline:-----
2. Pericarp represent ----- of T.S.
3. Epicarp:-----
4. Mesocarp: **Vittae** ----- **V.B.**----- **IML**-----
5. Endocarp:-----
6. Testa:-----
7. Endosperm:-----



1. Outline:-----
2. Pericarp represent ----- of T.S.
3. Epicarp:-----
4. Mesocarp: **Vittae** ----- **V.B.**----- **IML**-----
5. Endocarp:-----
6. Testa:-----
7. Endosperm:-----

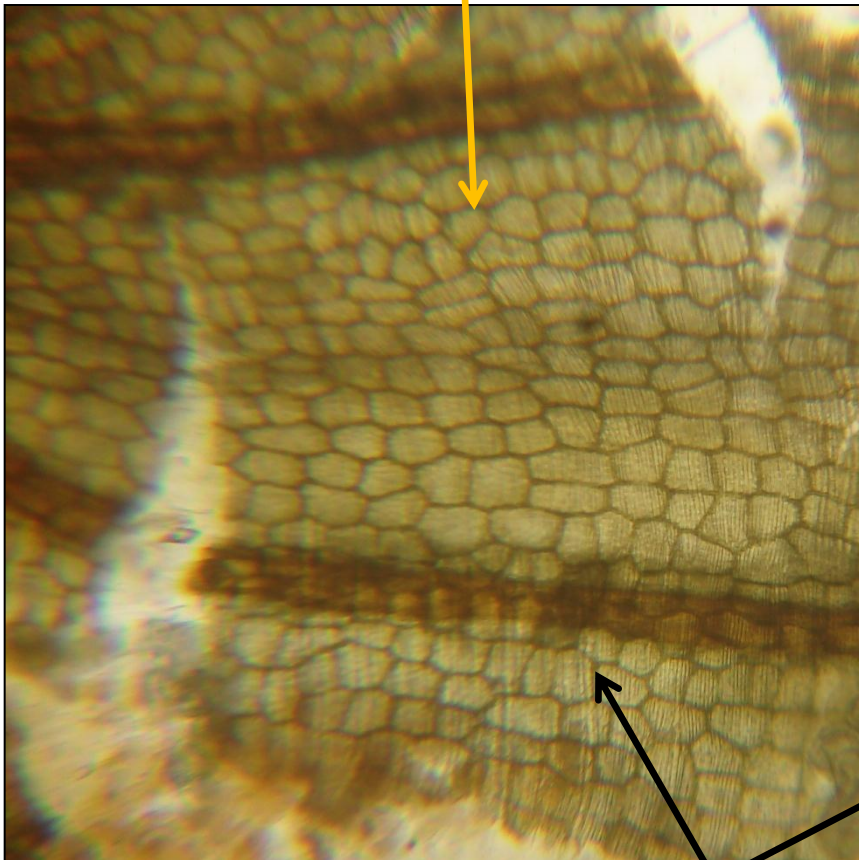
Powder of Ammi visnaga

Colour: Greenish brown

Odour: Aromatic

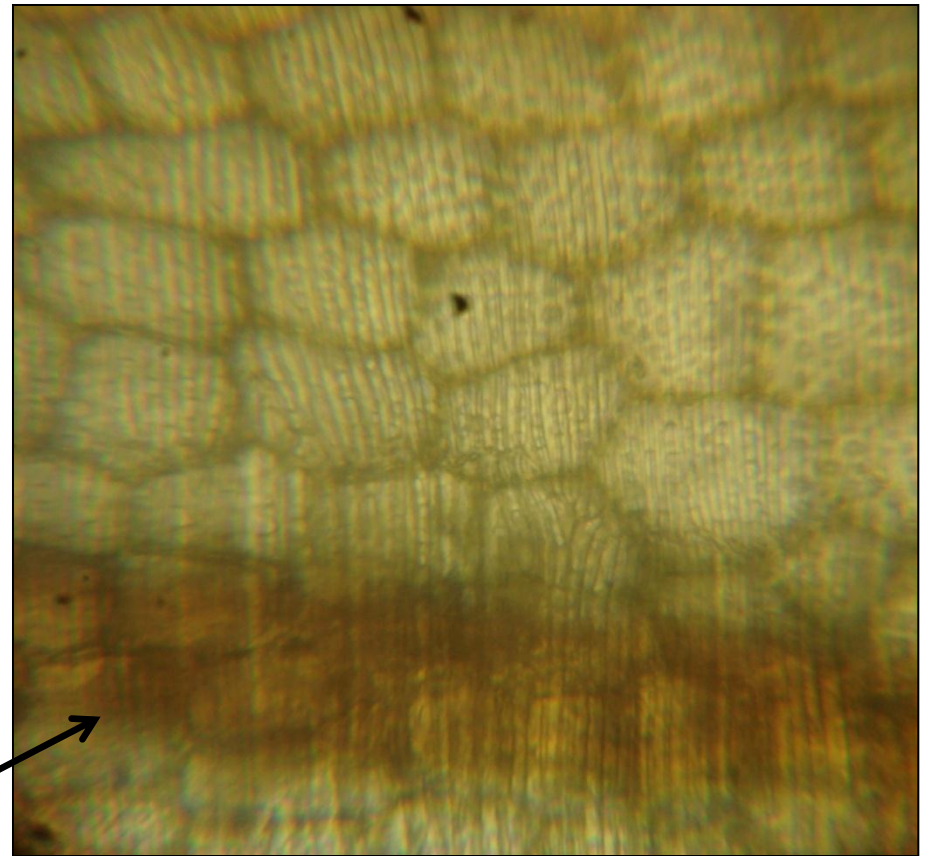
Taste: Aromatic bitter

**Inner most layer of mesocarp
(porous Layer)**



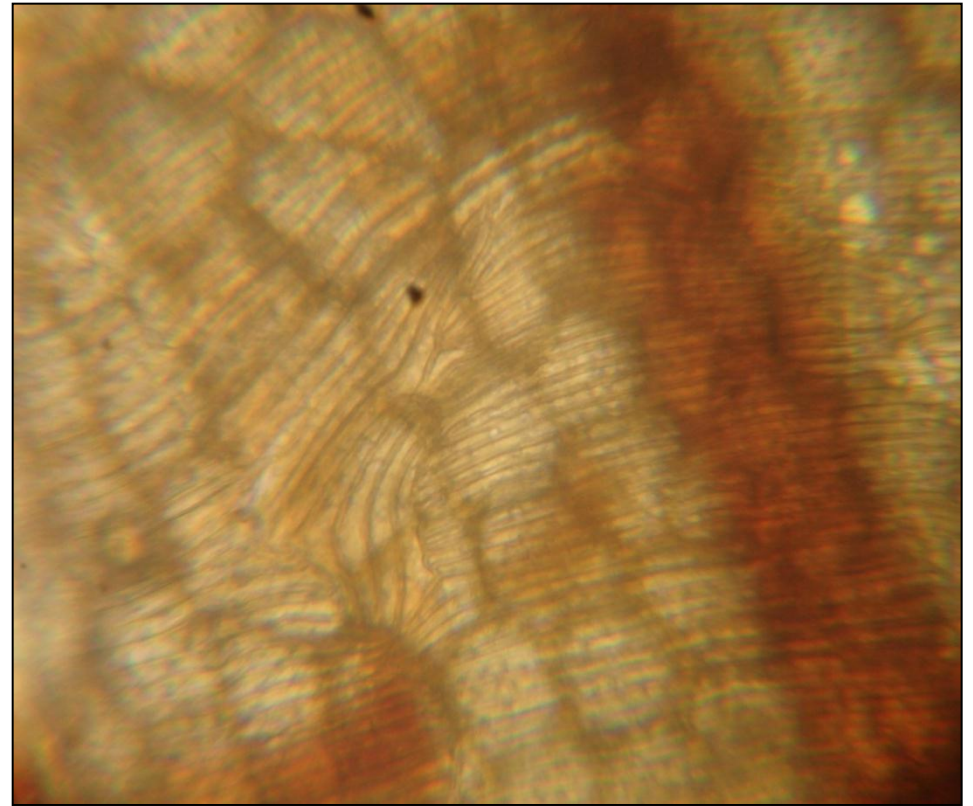
L.P

Vitta

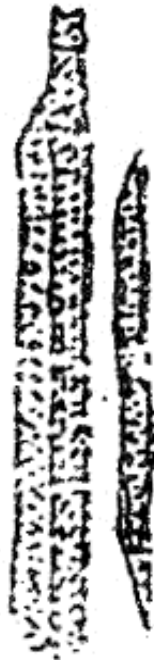


H.P

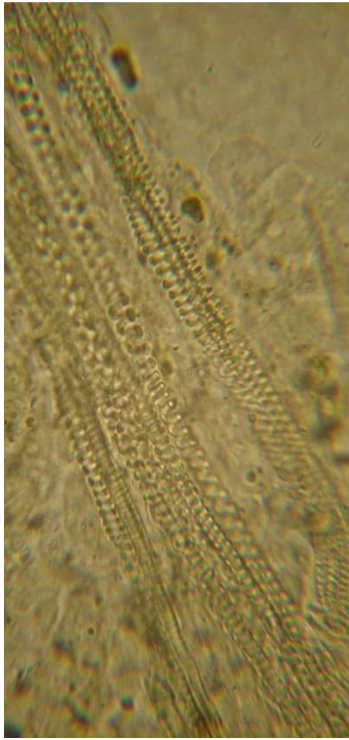
Indistinct Parquetry endocarp



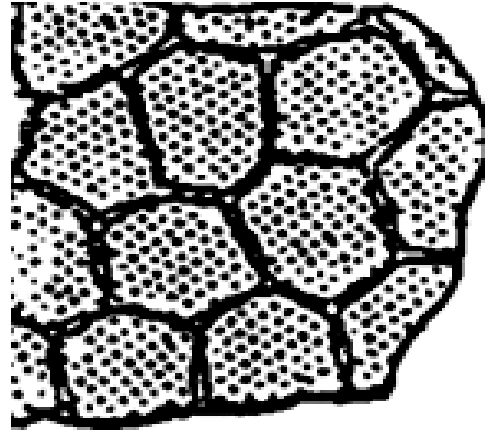
fibers



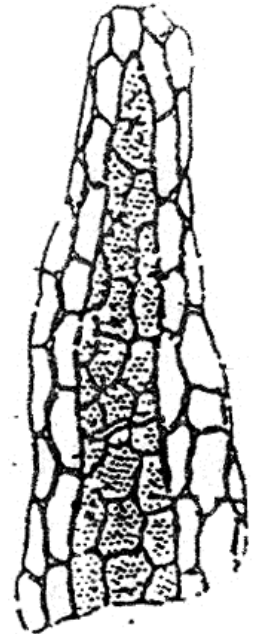
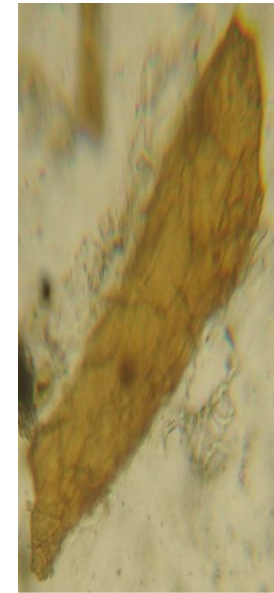
**Xylem
vessel**



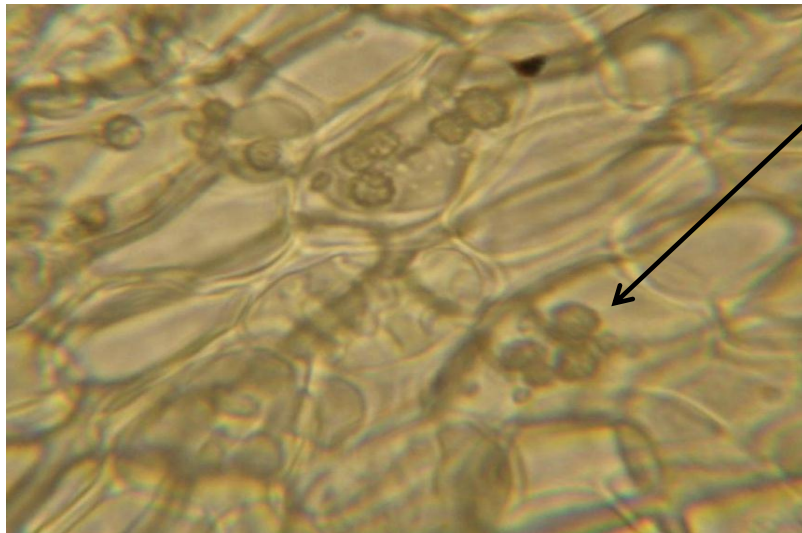
Epicarp
(striated cuticle , prisms
of Ca oxalate)



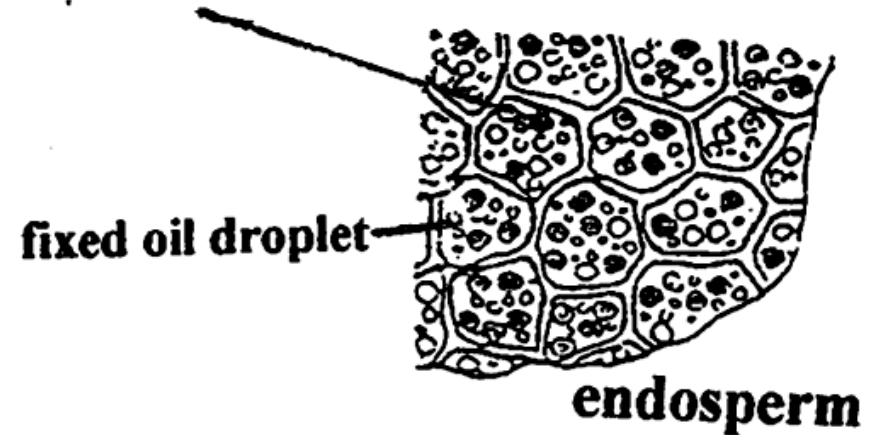
Testa



Simple vittae



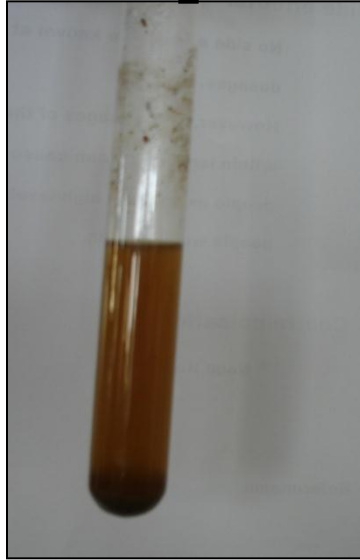
micro rosette crystal of calcium oxalate



fixed oil droplet

endosperm

Test for khellin (*Ammi visnaga*)



**Powder
Decoction**



KOH pellets



Rose Red